CONTENT STANDARD 1: Economics

Students will understand the link between technology and the economy, and recognize that link as the force behind societal emergence and evolution.

K-1	2-3	4-5	6	7	8
1.K-1.1 Identify parent's career in business and industry. 1.K-1.2 Identify an example of a local business or industry. 1.K-1.3 Identify and describe the source of a commonly used product (food, toys, rec).	1.2-3.1 Identify a local community business or industry. 1.2-3.2 Experience/simulate a service enterprise. 1.2-3.3 Recognize/explain the relationship between an existing consumer products/industry. 1.2-3.4 Identify and describe business and industry as producer of products or services.	1.4-5.1 Understand and define business and industry. 1.4-5.2 Identify business and industry around country. 1.4-5.3 Participate/experience managing a small enterprise. 1.4-5.4 Use tools and machines to experience enterprise. 1.4-5.5 Identify three types of businesses. 1.4-5.6 Analyze a product for its ability to satisfy consumer demands. 1.4-5.7 Describe how a business produces profit.	1.6.1 Describe how society uses resources and distributes its goods and services. 1.6.2 Identify three local businesses. 1.6.3 Identify skills used in making wise consumer decisions.	1.7.1 Use understanding of how society uses resources and distributes its goods and services to plan a simple company. 1.7.2 Identify some technologies necessary for particular local business to function. 1.7.3 Develop skills in making wise consumer decisions. 1.7.4 Describe how societies are organized to produce and distribute goods and services in a structured manner. 1.7.5 Describe how a business produces a profit. 1.7.6 Describe free enterprise.	1.8.1 Apply understanding of how society uses resources and distributes its goods and services to a manufacturing simulation activity. 1.8.2 Use understanding of how society is organized to produce and distribute goods and services in a structured manner to plan a simple town. 1.8.3 Describe the major economic and political systems in relation to technological activity. 1.8.4 Analyze a product for its ability to satisfy consumer demands.

9-10	11-12
1.9-10.1 Construct a solution to a given problem using a limited amount of material resources. 1.9-10.2 Analyze data that shows the link between technological manufacturing process and the economy. 1.9-10.3 Determine the style of ownership of local businesses.	1.11-12.1 Construct a solution to a given problem using a limited amount of time, personnel, material, and financial resources. 1.11-12.2 Show how computer controlled production has impacted quality and availability of products. 1.11-12.3 Apply characteristics of business ownership to their own company. 1.11-12.4 Create a school business to sell a manufactured product.

CONTENT STANDARD 2: Technological Impacts

Students will understand the impact that technology has on the social, cultural and environmental aspects of their lives.

K-1	2-3	4-5	6	7	8
2.K-1.1 Define *technology*. 2.K-1.2 Describe the role of technology in their lives. 2.K-1.3 Describe how technology is used in familiar surroundings.	2.2-3.1 Define *technology*. 2.2-3.2 Describe the characteristics of single ownership, corporations, companies and partnerships. 2.2-3.3 Compare financing and contrast ways of financing an enterprise. 2.2-3.4 Trace the historical development of at least one technology, identifying its effects and hypothesizing about its future.	2.4-5.1 Explain how technology and technological activity has expected and unexpected effects. 2.4-5.2 Trace the historical development of a product or process of technology. 2.4-5.3 Describe how their actions can affect the environment. 2.4-5.4 Identify positive and negative impacts of technology. 2.4-5.5 Technological innovation adaptation. 2.4-5.6 Describe how mathematics, science, language arts, social studies and the arts are related to technology.	2.6.1 Explain how technology and technological activity has expected and unexpected effects. 2.6.2 Develop criteria for evaluating technology. 2.6.3 Explore and identify the personal effects of technological systems. 2.6.4 Trace the historical development of at least one technology. 2.6.5 Describe the universal input, process, output, and feedback (IPOF) systems model.	2.7.1 Document how a technological activity you are involved in during class had expected and unexpected effects. 2.7.2 Explore and identify the environmental effects of technological systems. 2.7.3 Identify the effects of at least one technological development on history. 2.7.4 Research and identify the impacts of a technology using the universal input, process, output, and feedback (IPOF) systems model. 2.7.5 Identify and describe how individual technological innovations may be combined to create new technology. 2.7.6 Identify the social and economic impacts of automation and computer controlled processing.	2.8.1 Identify the effects of at least one current technological development in your local area. 2.8.2 Explore and identify the societal and economic effects of technological systems. 2.8.3 Use knowledge of how individual technological innovations may be combined to create new technology in a problem-solving activity using the IPOF model. 2.8.4 Hypothesize about the future of one technology.

9-10	11-12
2.9-10.1 Identify and apply the systems model to evaluate the impact of a given technological development. 2.9-10.2 Use the systems model to evaluate the effect of transportation technology on the environment. 2.9-10.3 Identify procedures in place in the classroom for dealing with hazardous materials. 2.9-10.4 Describe the role of technology in the creation of solutions to waste disposal issues.	2.11-12.1 Explore positive and negative impacts of a variety of technologies. 2.11-12.2 Identify the relationships between the increase of production and products and the increase of industrial wastes. 2.11-12.3 Identify the positive effects of increased avenues of communications in a global society.

CONTENT STANDARD 3: Career Awareness

Students will become aware of the world of work and its function in society, diversity, expectations, trends and requirements.

K-1	2-3	4-5	6	7	8
3.K-1.1 Define *work* and identify how people earn a living. 3.K-1.2 Expose U-Career Options and Opportunities.	3.2-3.1 Identify occupations that require working with people, places or things. 3.2-3.2 Understand the importance of individuals in an organization. 3.2-3.3 Develop personal responsibility and accountability in the work place/classroom lab.	3.4-5.1 Define the role of mathematics, science, language arts, social studies, the arts and technology education in preparing for various careers. 3.4-5.2 Describe how advances in technology have created new and emerging career options. 3.4-5.3 Research and report on a technological career.	3.6.1 Describe strategies for assuming responsibility. 3.6.2 Develop personal responsibility and accountability in the workplace. 3.6.3 Identify expectations in the workplace. 3.6.4 Define and discuss the concept of “work ethic”. 3.6.5 Define and discuss “career path”.	3.7.1 Demonstrate strategies for assuming responsibility in a cooperative activity in class. 3.7.2 Interview an employee to determine workplace expectations for a specific job. 3.7.3 Identify some clear career options you are not interested in pursuing. 3.7.4 Identify and categorize careers associated with each of the CT Career Clusters. 3.7.5 Describe how technological development affects careers and occupations. 3.7.6 Define and discuss personal and professional ethics. 3.7.7 Discuss coping strategies for change.	3.8.1 Identify and categorize careers associated with each of the CT Career Clusters in which you are interested. 3.8.2 Identify high school and post-secondary training selections necessary to prepare for a particular career choice. 3.8.3 Demonstrate awareness of changes in job requirements over time. 3.8.4 Prepare a preliminary career plan with connections to high school course selections. 3.8.5 Develop strategies for predicting labor market needs. 3.8.6 Prepare a list of skills necessary to perform well in a particular career. 3.8.7 Explore career options.

9-10	11-12
3.9-10.1 Demonstrate an ability to take responsibility for their own actions. 3.9-10.2 Exhibit appropriate behavior in both school and work situations. 3.9-10.3 Define and demonstrate a personal work ethic.	3.11-12.1 Research and identify career opportunities in the areas of transportation, communication, production and technology. 3.11-12.2 Identify future labor market trends. 3.11-12.3 Compare the skills needed by employees to those needed for success in education. 3.11-12.4 Develop a learning portfolio of their areas of experience and expertise.

CONTENT STANDARD 4: Problem Solving/Research and Development

Students will recognize technology as the result of a creative act, and will be able to apply disciplined problem-solving strategies to enhance invention and innovation.

K-1	2-3	4-5	6	7	8
4.K-1.1 Identify and define a problem. 4.K-1.2 Develop a verbal action plan to solve a problem. 4.K-1.3 Describe one problem-solving model. 4.K-1.4 Apply creative solutions to a technology problem.	4.2-3.1 Describe methods of problem solving. 4.2-3.2 Develop a written action plan to solve a problem. 4.2-3.3 Use a variety of (technology) methods to communicate a solution to a problem. 4.2-3.4 Evaluate a solution to a problem. 4.2-3.5 Work cooperatively in a small group to solve a technical problem.	4.4-5.1 Identify a problem and use a problem-solving method to develop a solution. 4.4-5.2 Develop a solution for a real-life problem. 4.4-5.3 Gather, record and organize data, based on observations. 4.4-5.4 Evaluate and modify a solution to a problem. 4.4-5.5 Differentiate between human problems and needs. 4.4-5.6 Understand the role of creativity in problem-solving. 4.4-5.7 Develop a solution to a real-life problem.	4.6.1 Differentiate between human problems and needs. 4.6.2 Define decision-making research and innovation. 4.6.3 Discuss how technological systems have been used to solve human problems. 4.6.4 Apply cooperative techniques while engaging in group problem-solving activities. 4.6.5 Engage in an activity that requires creativity. 4.6.6 Apply appropriate and effective questioning techniques. 4.6.7 Describe and apply the processes used to make decisions. 4.6.8 Test a design idea through experimentation. 4.6.9 Develop a solution for a real life problem.	4.7.1 Select and apply a general problem-solving model in a laboratory setting. 4.7.2 Identify research methods, material and techniques. 4.7.3 Conduct an applied research project. 4.7.4 Develop, test and modify a design through experimentation. 4.7.5 Differentiate between invention and innovation.	4.8.1 Apply technological systems to solve a posed problem. 4.8.2 Conduct an applied research project related to careers. 4.8.3 Apply a general problem-solving model to improve upon an existing product. 4.8.4 Apply a general problem-solving model including research techniques to invent a product.

9-10	11-12
4.9-10.1 Use research techniques to support design development. 4.9-10.2 Apply descriptive statistics of average, percentage correlation, and graphing to design outcomes. 4.9-10.3 Develop several alternatives design solutions to the same problem. 4.9-10.4 Use a communication technology to visualize a design idea. 4.9-10.5 Prepare and document a design brief. 4.9-10.6 Select appropriate technical processes and fabricate a prototype.	4.11-12.1 Evaluate design ideas to determine the most appropriate. 4.11-12.2 Identify appropriate sources of information for research. 4.11-12.3 Be familiar with the laws related to copyrights, trademarks, and patents. 4.11-12.4 Present an idea using multimedia technology. 4.11-12.5 Design and conduct a technical experiment. 4.11-12.6 Apply biological materials and processes to solve a problem.

CONTENT STANDARD 5: Leadership

Students will identify and develop leadership attributes and apply them in team situations.

K-1	2-3	4-5	6	7	8
5.K-1.1 Work with a classmate to complete an activity. 5.K-1.2 Identify members of familiar organizations, i.e.: principal, fire chief, mayor.	5.2-3.1 Define team. 5.2-3.2 Identify the role of various team members. 5.2-3.3 Describe a team within the school setting. 5.2-3.4 Verbally evaluate the effectiveness of a team. 5.2-3.5 Explore different roles within a team. 5.2-3.6 Explore different roles within a team environment.	5.4-5.1 Organize a team to solve a teacher-given problem. 5.4-5.2 Define the responsibility of each member of a work team. 5.4-5.3 Produce a written critique of team effectiveness. 5.4-5.4 Evaluate the effectiveness of a team. 5.4-5.5 Participate in a group presentation.	5.6.1 Understand and create simple flowcharts of daily activities. 5.6.2 Engage in presentation activities. 5.6.3 Demonstrate strategies for effectively managing time. 5.6.4 Develop organizational skills through practical experiences.	5.7.1 Understand and create flowcharts including feedback loops of daily activities. 5.7.2 Demonstrate strategies for effectively managing time over several class periods. 5.7.3 Demonstrate organizational skills through planning for task completion over several weeks. 5.7.4 Identify the elements of interpersonal communication. 5.7.5 Explore different roles while working cooperatively and effectively in team situations. 5.7.6 Explore different roles within a team environment. 5.7.7 Engage in presentation activity using some visual aid. 5.7.8 Identify and demonstrate organizational skills.	5.8.1 Use flowcharts in problem-solving activities. 5.8.2 Demonstrate strategies for effectively managing time over a long term assignment. 5.8.3 Demonstrate organizational skills through planning for task completion over a term. 5.8.4 Consider personal strengths in determining team assignments. 5.8.5 Demonstrate an application of the elements of interpersonal communication. 5.8.6 Engage in presentation activity using visual aids and handout material.

9-10	11-12
5.9-10.1 Apply organizational skills to classroom and lab activities. 5.9-10.2 Identify roles in a team environment. 5.9-10.3 Present information in an appropriate manner.	5.11-12.1 Develop a personal time management plan. 5.11-12.2 Assume appropriate roles within a team environment. 5.11-12.3 Present information in a clear, concise, and appropriate manner to a variety of audiences.

CONTENT STANDARD 6: Materials and Processes

Students will know the origins, properties and processing techniques associated with the material building blocks of technology.

K-1	2-3	4-5	6	7	8
6.K-1.1 Group resources and materials by properties. 6.K-1.2 Safely use a simple tool to alter a material.	6.2-3.1 Identify the characteristics of different resources and describe how these resources can serve different purposes. 6.2-3.2 Safely select and use a tool or resource. 6.2-3.3 Safely use the appropriate tool for a given need. 6.2-3.4 Use manual and electronic measuring devices accurately.	6.4-5.1 Describe that, by processing resources, the resources can be used differently. 6.4-5.2 Identify technological resources as materials, people, time, money, information, tools, etc. 6.4-5.3 Describe how the processing of resources can produce a more useful product. 6.4-5.4 Identify and describe a group of new and recycled materials used in technological systems. 6.4-5.5 Demonstrate the appropriate selection and safe operation of basic hand and power tools. 6.4-5.6 Explore the basic principles of computer-controlled processing techniques.	6.6.1 Identify and describe a group of new and recycled materials used in technological systems. 6.6.2 Demonstrate appropriate use and safe operation of basic hand and power tools. 6.6.3 Use manual measuring devices accurately. 6.6.4 Explore the principles of manual material processing techniques. 6.6.5 Identify the basic differences between how products are manufactured. 6.6.6 Produce simple products from a variety of materials using manual devices.	6.7.1 Demonstrate the appropriate selection and safe operation of basic hand and power tools. 6.7.2 Use manual and electronic measuring devices accurately. 6.7.3 Describe how products are manufactured. 6.7.4 Move “Produce products…” to the grade 8 column. 6.7.5 Differentiate between primary and secondary raw materials. 6.7.6 Explore methods used to convert raw and recycled materials into usable products. 6.7.7 Demonstrate a working knowledge of the layout, shaping, smoothing, assembly, and finish techniques used to produce a product. 6.7.8 Explore the principles of computer-controlled processing techniques. 6.7.9 Describe how products are made.	6.8.1 Participate in a manufacturing activity. 6.8.2 Participate in determining manufacturing process selection for a particular product part. 6.8.3 Produce products from a variety of materials using manual and computer-controlled devices.

9-10	11-12
6.9-10.1 Participate in recycling activities. 6.9-10.2 Experiment with the alteration of material characteristics. 6.9-10.3 Understand techniques used to extract raw materials from the environment. 6.9-10.4 Classify raw materials according to their physical and mechanical properties. 6.9-10.5 Distinguish between organic and inorganic materials. 6.9-10.6 Describe the physical structures and properties of materials. 6.9-10.7 Differentiate between natural and artificial materials.	6.11-12.1 Research and plan recycling activities. 6.11-12.2 Describe the physical structures and properties of materials used in technological systems. 6.11-12.3 Describe how properties of materials affect technological systems. 6.11-12.4 Identify secondary materials and processes through product analysis.

CONTENT STANDARD 7: Communication Systems

Students will understand and be able to effectively apply physical, graphic and electronic communications techniques in processing, transmitting, receiving and organizing information.

K-1	2-3	4-5	6	7	8
7.K-1.1 Use a technological system to transmit a message. 7.K-1.2 Use a variety of simple communication tools to transmit and receive a message.	7.2-3.1 Define a communication system. 7.2-3.2 Identify the parts of a communication system. 7.2-3.3 Describe the universal input, process, output, and feedback (IPOF) system model. 7.2-3.4 Acquire technology-based information and apply it in classroom and laboratory situations. 7.2-3.5 Identify and utilize an example of phi, graph, and electronic communications technology to transmit and receive a message.	7.4-5.1 Apply the IPOE system to communication technology. 7.4-5.2 Select appropriate methods of communication for a given problem or situation. 7.4-5.3 Identify and give examples of integrated technologies. 7.4-5.4 Identify the elements of mass communications. 7.4-5.5 Acquire technology-based information and apply it in classroom and laboratory situations. 7.4-5.6 Utilize a phi/graph/electronic system to transmit and receive a message.	7.6.1 Identify the elements of interpersonal communication. 7.6.2 Acquire technology-based information and apply it in classroom and laboratory situations. 7.6.3 Apply techniques of interpersonal communication in activities. 7.6.4 Create prototypes of communication instruments in various media.	7.7.1. Apply techniques of interpersonal and mass communication through activities. 7.7.2. Identify the elements of mass communication. 7.7.3. Explore and explain the integration of communication technologies into transportation and production. 7.7.4. Evaluate and select appropriate methods of communication for a given problem or situation. 7.7.5. Identify and give examples of integrated technologies.	7.8.1 Explore communications industries in your area to determine career opportunities. 7.8.2 Trace the production of a piece of communication media from its inception to use. 7.8.3 Demonstrate the application of communication techniques and strategies in delivering a message in printed form. 7.8.4 Demonstrate the application of communication techniques and strategies in delivering a message in audio form. 7.8.5 Demonstrate the application of communication techniques and strategies in delivering a message in electronically.

9-10	11-12
7.9-10.1 Demonstrate the proper use of the terminology associated with a variety of communication techniques. 7.9-10.2 Send and access information through a network. 7.9-10.3 Operate and apply appropriate electronic communication technology to processing, transmitting, receiving, and organizing information. 7.9-10.4 Explore a variety of technological devices used for communication. 7.9-10.5 Use communications technology to acquire images and information.	7.11-12.1 Apply accepted design principals of text and graphics to the layout of printed and electronically published materials. 7.11-12.2 Demonstrate skills in selecting and utilizing appropriate communication technology. 7.11-12.3 Design and produce a multimedia presentation.

CONTENT STANDARD 8: Production Systems

Students will understand and be able to demonstrate the methods involved in turning raw materials into usable products.

K-1	2-3	4-5	6	7	8
8.K-1.1 Use technological system. 8.K-1.2 Safely use a variety of simple tools to produce a product.	8.2-3.1 Define product system. 8.2-3.2 Identify the parts of a production system and their functions. 8.2-3.3 Describe the input, process, output, and feedback (IPOF) system model in a production system. 8.2-3.4 Safely use a variety of tools and machines to produce a product.	8.4-5.1 Apply and demonstrate an IPOF system in a production process. 8.4-5.2 Design, construct and test models of shelters and other structures. 8.4-5.3 Safely use tools and machines to produce a product using a simple production sequence or system.	8.6.1 Define basic manufacturing terminology. 8.6.2 Explore pre-production and post-production processes. 8.6.3 Describe how products are manufactured using the craftsman method versus the mass-produced method. 8.6.4 Explore the sources of raw materials and their preparation for production processes. 8.6.5 Design, construct and test models of shelters and other structures.	8.7.1 Define manufacturing terminology including interchange ability, automation, standardization, etc. 8.7.2 Describe how products are manufactured using the methods of single craftsman, line and mass, and automated-robotics manufacturing. 8.7.3 Use prepared materials in the fabrication of a product. 8.7.4 Identify the characteristics of sub- and super- structures. 8.7.5 Produce a product using simple production sequence: layout, shaping, smoothing, assembly, and finishing techniques.	8.8.1 Apply the method of line production in the "manufacture" of a simple product. 8.8.2 Compare systems designed for "on location" production to those produced off-site. 8.8.3 Analyze a design, through testing of model shelters and/or other structures and altering the design for improved performance.

9-10	11-12
8.9-10.1 Differentiate between manufacturing and construction systems. 8.9-10.2 Demonstrate safe and accurate use of tools and materials to create a finished product. 8.9-10.3 Complete a cost estimation. 8.9-10.4 Trace the historical evolution of manufacturing. 8.9-10.5 Trace the historical evolution of the construction industry. 8.9-10.6 Identify and evaluate alternative materials.	8.11-12.1 Demonstrate the safe and accurate use of tools and production systems to create a finished product. 8.11-12.2 Discuss the advanced production systems and the role they play in future societies. 8.11-12.3 Apply a variety of manufacturing techniques and processes to create a usable product.

CONTENT STANDARD 9: Transportation Systems

Students will understand transportation systems and the environments used to move goods and people, and the subsystems common to each.

K-1	2-3	4-5	6	7	8
9.K-1.1 Identify transportation systems used in the community. 9.K-1.2 Design and construct a transportation technology model.	9.2-3.1 Define a transportation system. 9.2-3.2 Identify the parts of a transportation system. 9.2-3.3 Describe the input, process, output, and feedback (IPOF) system model in a transportation system. 9.2-3.4 Identify the difference between fixed and random transportation systems. 9.2-3.5 Explore, build and experiment with model marine, space, land and air transportation services.	9.4-5.1 Describe the function of various parts of a transportation system. 9.4-5.2 Demonstrate an IPOF system in the technological pooches. 9.4-5.3 Explore, build, experiment and evaluate model marine, space, land and air transportation systems.	9.6.1 Differentiate between vehicular and stationary transportation systems. 9.6.2 Differentiate between fixed and random-route land transportation systems. 9.6.3 Describe and be able to identify the transportation subsystems of body/frame, propulsion, suspension, control, guidance and support in a variety of transportation devices. 9.6.4 Identify and experiment with devices used to protect product and personnel in transportation systems. 9.6.5 Explore, build and experiment with model marine, space, land and air transportation systems.	I modified this one, removing design and adding that to the 8th grade bullet. 9.7.1 Build and test model marine, space, land and air transportation systems. 9.7.2 Explore the characteristics of lighter than air and heavier than air atmospheric transportation systems. 9.7.3 Apply the concept of transportation subsystems while solving transportation problems.	9.8.1 Explore the assembly of a selected propulsion system. 9.8.2 Design, build and test model marine, space, land and air transportation systems and report on results. 9.8.3 Experiment with various guidance systems applied to vehicles and document findings. 9.8.4 Design, build and test model suspension systems and report on results.

9-10	11-12
9.9-10.1 Identify and describe the historical innovations in the evolution of transportation systems and their impact on society. 9.9-10.2 Understand the principles of aerodynamics. 9.9-10.3 Describe how pneumatic, hydraulic, mechanical and electrical energy are used in transportation systems.	9.11-12.1 Design, fabricate, test, and evaluate a land, atmospheric, marine, and space transportation system. 9.11-12.2 Identify and explore solutions to future global transportaiton problems. 9.11-12.3 Explore and experiment with traditional and alternative fuels. 9.11-12.4 Apply pneumatic, hydraulic, mechanical, and electrical energy to design problems involving transportation. 9.11-12.5 Analyze the impact on our society, economy and environment of the historical innovations in the evolution of transportation systems. 9.11-12.6 Design, fabricate, test and evaluate a land, atmospheric, marine and space transportation system. 9.11-12.7 Identify and explore solutions to future global transportation problems.

CONTENT STANDARD 10: Enterprise

Students will demonstrate the techniques of enterprise and how they relate to product and service production, economics, human and material resources, and technology.

K-1	2-3	4-5	6	7	8
10.K-1.1 Identify local business and industries and the product or services they produce.	10.2-3.1 Identify various local businesses and industries as producers of goods or services. 10.2-3.2 Describe the evolution of a product used in a local business.	10.4-5.1 Trace the evolution of material resources through a business or industry to its end product. 10.4-5.2 Create a mock business within the classroom or school. 10.4-5.3 Explore the career possibilities and responsibilities in enterprise.	10.6.1 Describe the evolution of technological enterprise. 10.6.2 Develop, distribute and evaluate a customer survey.	10.7.1 Discuss the influence of enterprise on culture, society and the environment. 10.7.2 Define the terms, single ownership, company, corporation and partnership. 10.7.3 Explore the career possibilities and responsibilities in enterprise. 10.7.4 Identify and explore a variety of organizational structures describing the advantages and disadvantages of each. 10.7.5 Explore market research and its relationship to satisfying consumer needs.	10.8.1 Relate the career possibilities and responsibilities in enterprise to the CT Career Clusters. 10.8.2 Identify and explore the organizational structure of a particular enterprise in your area.

9-10	11-12
10.9-10.1 Calculate the cost of producing a manufactured product. 10.9-10.2 Explore company responsibilities toward employees, community, and the environment. 10.9-10.3 Participate in a variety of roles within an organizational structure. 10.9-10.4 Design a product based on available materials, tools, and equipment. 10.9-10.5 Explore quality control methods. 10.9-10.6 Discuss the current and historical significance of unions. 10.9-10.7 Develop a floor diagram and flowchart. 10.9-10.8 Discuss the required modification if a product were to be manufactured in a nontraditional environment.	10.11-12.1 Design a simulated enterprise and participate in a variety of roles within the organization structure. 10.11-12.2 Assume responsibilities toward employees, community, and the environment. 10.11-12.3 Design and produce a product based on customer need, available tools, materials, equipment, and capital resources. 10.11-12.4 Define and use the quality control measures of pre-inventory inspection, statistical process control, and total quality management. 10.11-12.5 Design the modifications necessary if a product were to be manufactured in a non-traditional environment. 10.11-12.6 Determine a retail price for a manufactured product. 10.11-12.7 Design a simulated enterprise and participate in a variety of roles within the organizational structure. 10.11-12.8 Calculate the cost of producing a manufactured product and determine a retail price 10.11-12.9 Develop a marketing plan and successfully distribute a product.

CONTENT STANDARD 11: Engineering Design

Students will be able to supply the engineering design process to achieve desired outcomes across all technological content areas.

K-1	2-3	4-5	6	7	8
11.K-1.1 Design and construct a solution to an engineering problem in the home.	11.2-3.1 Define *design*. 11.2-3.2 Identify the elements of engineering the design process. 11.2-3.3 Explain the role of creativity in the engineering design process. 11.2-3.4 Design and construct a solution to an engineering problem in the community.	11.4-5.1 Design and construct a solution to a real world engineering problem.	11.6.1 Identify the elements of design. 11.6.2 Explore a variety of creativity-enhancing techniques.	11.7.1 Discuss the differences between problem solving- and engineering design strategies. 11.7.2 Explain the role of creativity in the engineering design process. 11.7.3 Develop conceptual designs for transportation, communications, production and bio-related problems. 11.7.4 Use a variety of creativity-enhancing techniques in conceptual design situations. 11.7.5 Explore techniques used to refine conceptual design sketches. 11.7.6 Develop preliminary product layouts.	11.8.1 Apply conceptual designs in building models from product layouts for transportation, communications, production and/or bio-related problems. 11.8.2 Describe conceptual design, embodiment design and detail design and identify their roles in the engineering process.

9-10	11-12
11.9-10.1 Not enough information available about the engineering processes referred to.	11.11-12.1 Not enough information available about the engineering processes referred to.